

A NEW GENUS OF PACIFIC ETELINAE (PISCES:
LUTJANIDAE) WITH REDESCRIPTION
OF THE TYPE-SPECIES

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Etelis filamentosus was described by Fourmanoir (1970) from a specimen obtained from the stomach of an *Alepisaurus ferox* collected off New Caledonia. Our examination of the holotype and four considerably larger specimens collected off the Hawaiian Islands shows that Fourmanoir's species is not an *Etelis*, but represents a related, undescribed genus of eteline lutjanid. Yoshino and Araga (1975) described *Etelis nudimaxillaris* from two specimens collected off Okinawa. Based on our examination of the paratype of Yoshino and Araga's species, we conclude that *Etelis nudimaxillaris* is a junior synonym of Fourmanoir's *Etelis filamentosus*. The purposes of this paper are to describe the new genus and to redescribe the single species *filamentosus*.

We used standard methods in making counts and measurements. Counting gill rakers on largest specimens was difficult, because it was hard to reflect the opercle far enough to see clearly the elements at anterior ends of upper and lower limbs, and because of the presence of elements intercalated within the main series of rakers. Intercalated elements were excluded easily from series counted where rakers were well developed, but because of similarity of size were not distinguished readily from rudiments counted. As a result, a degree of judgement was introduced into counting gill rakers.

Material examined is in the collections of The Academy of Natural Sciences of Philadelphia (ANSP); Bernice P. Bishop Museum, Honolulu (BPBM); Museum National d'Histoire Naturelle, Paris (MNHN); Department of Biology, University of the Ryukyus, Naha, Okinawa (URB); and U.S. National Museum of Natural History, Washington, D.C. (USNM).

Randallichthys, new genus

Diagnosis.—A genus of Etelinae differing from all other genera of Lutjanidae by the following combination of characters: a well-developed series of longitudinal bony ridges on lateral surface of maxillary; premaxillaries not protractile, fixed by a frenum; anterior tip of lower jaw considerably anterior to that of upper jaw when mouth closed; maxillary without scales; vomer and palatines with teeth; opercular spines poorly developed in young, becoming vestigial or disappearing in larger specimens; gill openings extending well forward of front of eye, as in *Aphareus*; dorsal fin continuous, indented just anterior to junction of spinous and soft portions, but

not as deeply incised as in *Etelis*; ultimate dorsal soft ray slightly shorter than penultimate ray in young, becoming slightly longer than penultimate ray in older individuals; ultimate anal soft ray equal to or slightly longer than penultimate ray. Pectoral fin short, 55.0 to 66.0 percent of head length.

Description.—Mouth slightly oblique, terminal. No fleshy protrusion at anterior end of upper lip. No teeth on pterygoids or tongue. Two nostrils on each side, close to each other and to eye. Interorbital region flattened, but not as much as in *Aprion* or *Etelis*—more like that of *Aphareus*. Gill arches four, a slit behind the fourth. Gill rakers armed with numerous conical teeth; lateral gill rakers on anterior gill arch with teeth confined almost exclusively to their medial surfaces. Pseudobranchiae present. Spines of dorsal and anal fins rather weak. Caudal fin lunate. Scales ctenoid. Cheek, postorbital region, opercle, subopercle, interopercle, and proximal concave border of preopercle with scales. A patch of scales in temporal region separated from postorbital scales below and dorsolateral scales of body above by narrow naked areas running obliquely posteriorly and ventrally from scaleless interorbital region; lower oblique naked area usually wider than upper; upper naked area usually crossed by bridge of scales at about mid-length, lower naked area bridged at its posterior end by scales; temporal patch of scales usually separated posteriorly from scales of opercle by naked area. Snout, preorbital, interorbital, a narrow zone below and behind eye, most of preopercle, maxillary, lower jaw, and gular region naked. Dorsal and anal fins scaleless. Pelvic axillary process present. Pectoral and caudal fins scaly basally. Lateral line complete, sensory tubules simple. Pelvic-fin rays 1,5. Principal caudal-fin rays 17 (9 + 8); procurent caudal rays 11 or 12 dorsally, 10 or 11 ventrally. Branchiostegal rays 7 (5 on ceratohyal + 2 on epihyal). Vertebrae 24 (10 precaudal + 14 caudal). Caudal with no hypural fusion. Epipleural ribs 8. Trisegmental pterygiophores 5 to 6 dorsally and 4 to 5 ventrally. Three predorsal bones, three anteriormost dorsal pterygiophores, and four anteriormost neural spines in typical eteline configuration (first predorsal bone anterior to first neural spine, second and third predorsal bones between first and second neural spines, first dorsal pterygiophore between second and third neural spines, and second and third dorsal pterygiophores between third and fourth neural spines). Other characters are those in the generic diagnosis and those of the single species.

Etymology.—The name *Randallichthys* is for John E. Randall of the Bernice P. Bishop Museum, Honolulu, Hawaii, in recognition of his numerous contributions to the understanding and appreciation of the biology of Indo-Pacific fishes; the suffix—*ichthys* (= fish)—is from the Greek. The gender is masculine.

Type species.—*Etelis filamentosus* Fourmanoir, 1970.

Randallichthys filamentosus (Fourmanoir)

Figs. 1, 2; Tables 1, 2

Etelis carbunculus: Fowler (*non* Cuvier, 1828), 1928:193–194, pl. XVII, A (synonymy referring to species of *Etelis*; description, in part, of *Randallichthys filamentosus* and in part, apparently, of a species of *Etelis*; illustration of *Randallichthys filamentosus*; Hawaii).

Etelis filamentosus Fourmanoir, 1970:26, 28–29, fig. 6 (original description and illustration; holotype MNHN 1970-33, 136 mm SL; type-locality 22°52'S, 162°20'E).

Etelis nudimaxillaris Yoshino and Araga, 1975:236, pl. 61-H (original description and illustration; holotype URB 78-0110, 424 mm SL; type-locality off Okinawa).

Description.—Variable meristic data and selected morphometric data are in Tables 1 and 2. Dorsal-fin rays X,11. Anal-fin rays III,9. Lateral surface of maxillary with a series of ca. 4–9 longitudinal bony ridges (ca. 4 on holotype, ca. 6–9 on larger specimens); ridges, for the most part, present only on exposed portion of maxillary. Maxillary ending posteriorly somewhat short of vertical through middle of eye. Middle of eye approximately on horizontal line through anterior end of snout. Posterior border of anterior nostril with flap of tissue reaching, when reflected, to or slightly past anterior border of posterior nostril. Anterior nostril elliptical, with dorso-ventral axis longer; posterior nostril horizontally elliptical to almost circular, larger than anterior nostril. Posteriormost point of head ending well anterior of vertical through base of first dorsal spine. Premaxillary of holotype with inner band of small, essentially villiform teeth, some of teeth at anterior end of band enlarged and recurved; outside of this band a series of conical teeth (progressively larger anteriorly), one tooth on each side near front of jaw enlarged as a small canine; symphysis toothless. Premaxillary dentition of other specimens similar to that of holotype except no canines on three largest specimens. Dentary of holotype with series of conical teeth on rear and middle portions, anteriorly this series expanded into a band of essentially villiform teeth, some of which enlarged and recurved; outside of this band on each side two small exerted canines, one near symphysis and one on side of jaw at some distance posterior to symphysis; symphysis toothless. Dentary teeth of other specimens in similar pattern but all very small (villiform anteriorly) except for 3–7 exerted conical teeth on each side, in series starting near symphysis and extending posteriorly on side of jaw. Larger teeth on premaxillaries and dentaries needle sharp. Vomer and palatine with small conical teeth on holotype (villiform on other specimens); those on vomer in roughly chevron-shaped patch with apex blunt and directed anteriorly; teeth on palatine in narrow antero-posteriorly oriented band. Preopercle serrate but without spine at angle; holotype with

Table 1. Meristic data for *Randallichthys filamentosus*. Holotype is MNHN 1970-33; paratype of *Etelis nudimaxillaris* is URB 78-0111. Standard length is in mm. For bilateral counts the left side is presented first.

Character	MNHN 1970-33	BPBM 19695	URB 78-0111	USNM 216255	BPBM 11365	ANSP 95004
Standard length	136	242	408	487	493	499
Pectoral-fin rays	16,16	17,16	16,16	16,16	17,17	16,16
Gillrakers (including rudiments):						
Upper limb	9,8	7,8	6,5	8,8	7,7	8,7
Lower limb	14,14	15,15	14,14	14,14	14,16	14,14
Total	23,22	22,23	20,19*	22,22	21,23	22,21
Tubed lateral-line scales	49,49	48,49	49,49	49,49	49,48	49,49
Scales above lateral line	—,9	9,10	ca. 8,9	8, ca. 9	7, —	8,9
Scales below lateral line	—,13	14,13	14,13	13,14	14, —	14,14
Cheek-scale rows	—,7	9, ca. 8	ca. 8,9	8,8	—, ca. 8	9,9
Predorsal scales	ca. 20	24	ca. 23	ca. 22	ca. 22	ca. 21
Caudal-peduncle scales	22	24	22	23	23	23
Scale rows between lateral line & middorsal fin	5.0, —	6.5,6.5	6.0,6.0	6.5,6.5	6.0,6.0	6.5,6.5

* The anteriormost gill arch was removed on each side. Although it appears that all gill rakers were removed intact along with the arches, there is a possibility that some were not.

both limbs serrate, serrae larger in region of angle; other specimens with small serrae on horizontal limb, at angle, and on vertical limb near angle, preopercular notch and margin of vertical limb above notch smooth to almost smooth. Preopercular notch slightly developed only on one side of holotype, slightly to well developed on other specimens. Holotype with margins of interopercle and subopercle serrate for some distance on either side of their junction; other specimens without serrae on margins of interopercle and subopercle. Body compressed, not particularly deep, shape resembling that of *Aphareus* or *Etelis*. Pectoral fin short, reaching a vertical from near base of seventh dorsal spine on holotype and a vertical through base of eighth or ninth dorsal spine on other specimens. Two dorsal-most and one or two ventralmost pectoral-fin rays unbranched, other pectoral-fin rays branched. Pelvic fin ending anterior to vent, reaching to a vertical from near base of ninth dorsal spine. Lower lobe of caudal fin with some rays excessively produced and filamentous on holotype (not produced on other specimens). Leading edge of anal fin forming almost a right angle with distal edge, anal fin frequently slightly angulated posteriorly. Predorsal scales beginning over posterior part of orbit. Rows of scales above and below lateral line parallel to it. Largest specimens quite oily.

Table 2. Morphometric data for *Randallichthys filamentosus*. Holotype is MNHN 1970-33; paratype of *Etelis nudimaxillaris* is URB 78-0111. Standard length in mm, other measurements in percentage of standard length.

Character	MNHN 1970-33	BPBM 19695	URB 78-0111	USNM 216255	BPBM 11365	ANSP 95004
Standard length	136	242	408	487	493	499
Head length	30.8	31.2	31.0	30.2	30.9	30.1
Snout length	9.9	9.6	9.8	10.1	10.0	10.0
Fleshy orbit, horizontal diameter	7.6	8.4	7.5	6.8	6.8	6.6
Interorbital, least bony width	7.1	7.2	7.5	8.2	7.8	7.9
Suborbital, least width	4.1	4.0	3.9	3.9	4.0	3.6
Upper jaw length	13.1	13.7	14.0	13.8	13.1	13.4
Lower jaw length	16.8	17.1	17.2	16.5	16.0	16.8
Body depth at first dorsal spine	31.2	30.7	31.0	32.0	33.1	32.1
Body greatest width	16.7	13.0	15.9	16.8	16.5	16.0
Caudal peduncle, least depth	11.7	10.7	11.1	11.3	10.5	11.4
Penultimate dorsal soft ray length	ca. 10.4	8.6	8.6	7.3	ca. 7.0	7.3
Ultimate dorsal soft ray length	ca. 10.1	8.4	8.9	7.4	7.7	7.6
Penultimate anal soft ray length	9.4	7.0	ca. 7.8	7.1	6.5	7.1
Ultimate anal soft ray length	9.4	7.1	8.6	7.1	6.7	7.1
Pectoral fin length	16.9	19.3	18.8	18.5	18.8	19.8
Pelvic fin length	21.0	21.0	22.5	20.5	20.1	20.6
Upper caudal-fin lobe length	27.5+	ca. 30.7	—	35.7	—	35.3
Lower caudal-fin lobe length	83.1+	ca. 32.2	—	32.8	—	32.9

Coloration.—Fourmanoir (1970) stated that in formalin the holotype (MNHN 1970-33, 136 mm SL) showed four or five dark bands. These vertical bands (or bars) of dark pigmentation, although quite faded and not distinct in Fig. 1, are still evident on the specimen more than 15 years after preservation. The first of these on head immediately posterior to orbit, the second beneath spinous dorsal, the third beneath posterior spinous dorsal and anterior soft dorsal, and the fourth beneath soft dorsal; hint of a fifth bar on caudal peduncle. Bars more evident dorsally than ventrally. Base of dorsal fin, interradial membranes of spinous dorsal, proximal parts of interradial membranes of soft dorsal, interradial membranes of pelvic fins, and base of caudal fin with considerable dusky pigment. Anal fin lightly pigmented. Pectoral fins unpigmented. According to M. Legand, who collected the holotype, the coloration before preservation was rosy without dark bars (Fourmanoir, 1970).

In alcohol a larger specimen (BPBM 19695, 242 mm SL; Fig. 2) is

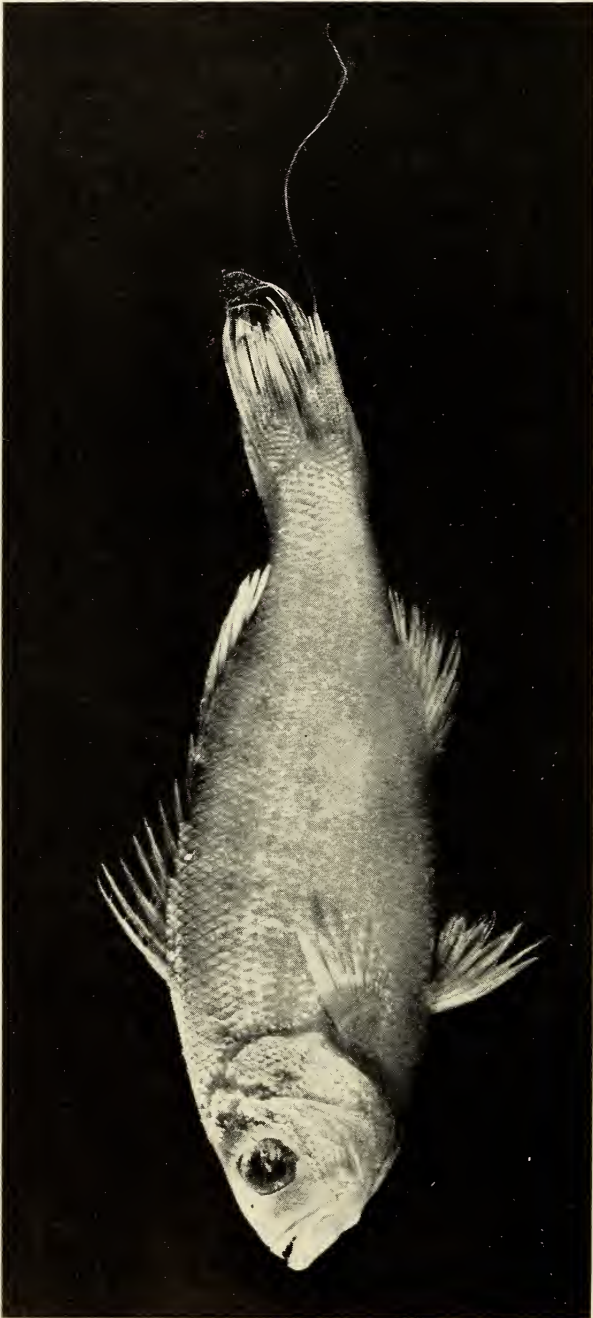


Fig. 1. Holotype of *Randallichthys filamentosus* (Fourmanoir), MNHN 1970-33, 136 mm SL.

mainly gray (darker dorsally) with darker bars placed similarly to those described for the holotype. Spinous dorsal and proximal part of soft dorsal fins heavily pigmented; narrow black band on spinous dorsal fin distally. Anterior two-thirds of anal fin lightly pigmented. Distal portion of soft dorsal fin, posterior one-third of anal fin, and pectoral fins unpigmented or essentially so. Right pelvic fin (left missing) heavily pigmented with broad black border distally. Upper and lower lobes of caudal fin with considerable pigment proximally, paler distally; middle of caudal fin more lightly pigmented proximally than upper and lower lobes, much paler distally. A color transparency of this specimen shows dark gray on dorsum of snout and on interorbital region; preorbital region, lips, and ventral part of lower jaw orange; postorbital region gray with pink to orange admixture; most of remainder of head pale pink; iris mainly orange. Body dull orange gray dorsolaterally, pale pink laterally and ventrally; dark vertical bars visible, but not very distinctive. Spinous dorsal fin bordered distally by narrow black band separated from general yellowish ground color of fin anteriorly by wider gray zone; soft dorsal fin yellowish. Anal fin yellow orange proximally with narrower pale zone distally. Pectoral fin pinkish. Pelvic fin yellow orange proximally with broad black margin distally. Caudal fin with dark gray blotch on each lobe near base, blotches connected by narrow gray line; most of caudal fin dull orange; most of distal edge of caudal fin dark.

In alcohol, the four largest specimens lack any distinctive coloration on head or body, but interradiation membranes of spinous dorsal fin with narrow dark distal edging. Anterior anal soft rays with some dark pigment distally. A dark band over distal margin of pelvic fin. Very fine dark distal edging on middle rays of caudal fin of two of largest specimens.

In color prints of one of largest specimens (BPBM 11365, 493 mm SL) head and iris rosy. Ground color of body rosy with suffusion of yellowish pigment dorsolaterally. Dorsal fin grayish except: distal edges of interradial membranes of spinous dorsal fin black, rosy spot near distal margin of spinous dorsal fin about two-thirds distance from anterior end, and distal portion of posterior half of soft dorsal fin with yellowish stripe. Anal fin rosy with an admixture of yellow. Pectoral fin rosy proximally with some yellowish pigment distally. Leading edge of pelvic fin mostly rosy, most of fin yellowish, distal edge black. Caudal fin rosy with considerable yellow influence in ground color, bright yellow band (resembling the numeral seven) beginning proximally on upper rays (as horizontal arm of seven), proceeding distally to near posterior tip of fin and thence downward (as vertical arm of seven) parallel to posterior border, and ending some distance from ventral border of lower lobe; a narrow dark border along distal edge. A color print of another specimen (USNM 216255, 487 mm SL) and the

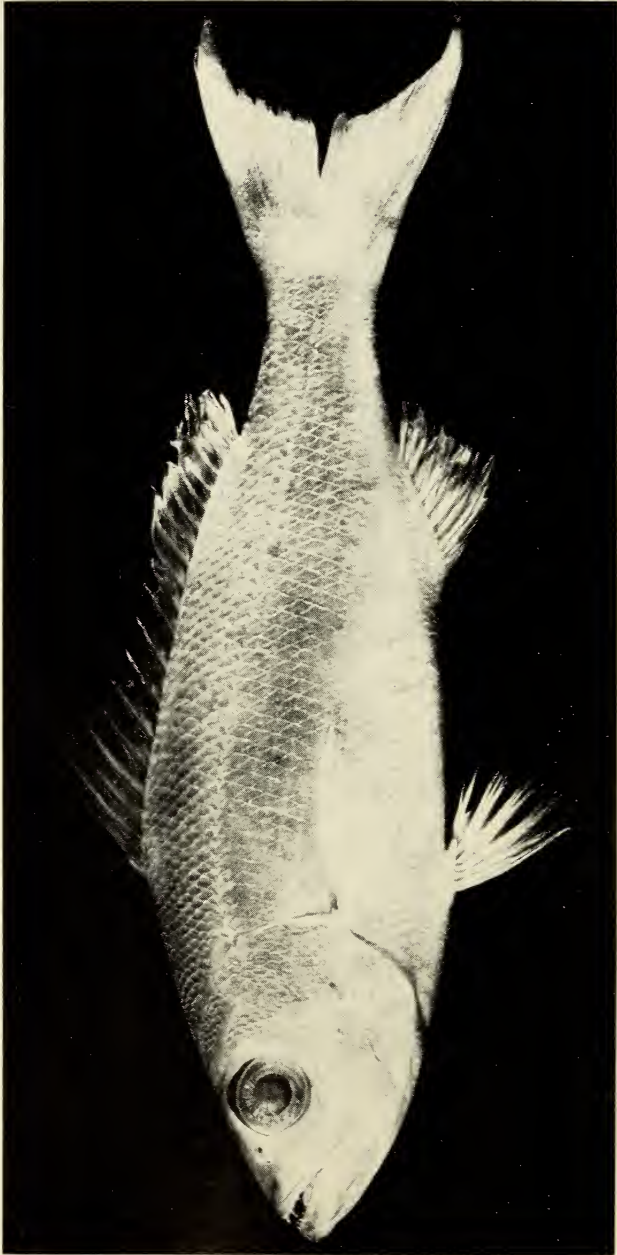


Fig. 2. *Randallitichthys filamentosus* (Fourmanoir), BPBM 19695, 242 mm SL (right side photographed, negative reversed).

illustration provided by Yoshino and Araga (1975, pl. 61-H) of *Etelis nudimaxillaris* resemble the color prints of the specimen described above.

Synonymy.—Yoshino and Araga (1975) described *Etelis nudimaxillaris* from two specimens collected off Okinawa. Although there are several discrepancies between Yoshino and Araga's description of *Etelis nudimaxillaris* and our description of *Randallichthys filamentosus*, examination of the paratype of *E. nudimaxillaris* shows it to be conspecific with *R. filamentosus*. Because the paratype of *E. nudimaxillaris* agrees closely with the other specimens of *R. filamentosus* and because the illustration accompanying the original description of *E. nudimaxillaris* is a good likeness of *R. filamentosus*, we consider *Etelis nudimaxillaris* to be a junior synonym of *Randallichthys filamentosus*.

Yoshino and Araga (1975) stated that Fowler (1928) figured and described their new species as *Etelis carbunculus*. Fowler's illustration (1928, pl. XVII, A) and his description, in part, are of *R. filamentosus*.

Distribution.—This species is known from off the Hawaiian Islands, New Caledonia, and Okinawa in depths of 152–293 m.

Material examined.—We examined 6 specimens, 136–499 mm SL.

Holotype of *Etelis filamentosus*: MNHN 1970-33 (136 mm SL); off New Caledonia, west of Nouméa (well offshore), 22°52'S, 162°20'E; coll. M. Legand, 4 July 1961; from stomach of an *Alepisaurus ferox* caught by Japanese long line.

Paratype of *Etelis nudimaxillaris*: URB 78-0111 (408 mm SL); Ryukyu Islands, off Okinawa; April 1973; hand line.

Other material: BPBM 11365 (1 specimen, 493 mm SL); Hawaiian Islands, Hawaii (west coast), off Napoopoo; 293 m; coll. Weston Leslie, 25 June 1971; hook and line, ópelu (*Decapterus pinnulatus*) as bait. USNM 216255 (1, 487 mm SL); Hawaiian Islands, Oahu, Tamashiro Fish Market; coll. J. E. Randall, 21 November 1975. ANSP 95004 (1, 499 mm SL); same data as USNM 216255 except 18 December 1975. BPBM 19695 (1, 242 mm SL); Hawaiian Islands, Oahu (west coast), off Waianae; 152 m; coll. John Rivera, 21 January 1976; hook and line.

Distinguishing Characteristics and Relationships

In addition to the characters given in the generic diagnosis, those useful for distinguishing *Randallichthys filamentosus* from other lutjanids are: dorsal-fin rays X,11; anal-fin rays III,9; anterior soft rays of dorsal and anal fins not elongated; dorsal and anal fins scaleless; lower lobe of caudal fin with some rays excessively produced and filamentous in young; no fleshy protrusion at anterior end of upper lip; anterior and posterior nostrils close to each other and to eye; interorbital region flattened; molariform teeth absent; pterygoids and tongue toothless.

The structure of the frontal region of the skull (i.e., presence of a posterior frontal thickening forming a complete transverse ridge of demarcation anterior to occipital region), the number of dorsal-fin rays, the configuration of the predorsal bones, and the possession of a well-developed accessory subpelvic keel all support the placement of *Randallichthys* in the lutjanid subfamily Etelinae. *Randallichthys* appears to be most closely related to *Aphareus*. It shares with that genus the following characters not found in combination in other eteline genera: premaxillaries not protractile, maxillary without scales, lower jaw extending well anterior to upper jaw, gill openings extending considerably anterior to orbit, and section A₁ of adductor mandibulae without an anterodorsal extension.

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